

REMARKS

Claims 1-10, 13-16, and 18-19 are all the claims pending in the application. Claims 11, 12, and 17 have been canceled without prejudice or disclaimer. New claims 18-19 have been added to further define the invention. Reconsideration and allowance of all the claims are respectfully requested in view of the following remarks.

Election of Species

Newly added claims 18 and 19 are directed to a thin motor that includes the rolling bearing of claim 1. Accordingly, upon the allowance of generic claim 1, which has been examined with the elected species D, claims 18 and 19 should be re-joined and allowed as well.

Specification

The Examiner objected to the specification as failing to provide proper antecedent basis for "a tub portion" as set forth in claims 5-7. In order to overcome this objection, Applicant has amended claims 5-7 so as to recite --a knob portion-- instead of "a tub portion".

Claim Rejections - 35 U.S.C. § 102

The Examiner rejected claims 1, 8, and 11, under §102(b) as being anticipated by US Patent 5,119,446 to Grafstrom et al. (hereinafter Grafstrom). This rejection is now believed to be moot.

Claim Rejections - 35 U.S.C. § 103

- The Examiner rejected claims 15 and 17 under §103(a) as being unpatentable over US Patent 6,038,205 to Katakura et al. (hereinafter Katakura) in view of Grafstrom. Applicant respectfully traverses this rejection because the references fail to teach or suggest all the elements as set forth in the claims.

Claim 15 sets forth a bearing device comprising an axis side member including a cylindrical part with an inner ring, a housing including a ring part with an outer ring, a rolling bearing disposed between said axis side member and said housing, and a sheet covering a gap between the inner ring and the outer ring, the sheet being bonded on at least one of the housing,

the inner ring, and the outer ring by a detachable bonding force, wherein the detachable force is lowerable when the bonded portion of the sheet is heated.

The Examiner asserts that Katakura teaches a sheet 11 covering a gap between an inner ring and an outer ring, and that the sheet 11 is “press fit which can be readable as bonded ... wherein it is inherent that the bonded portion of the sheet can be removable by heating.”¹ But the Examiner’s interpretation of Katakura is mistaken.

First, Katakura does not disclose that the sealing member 11 is press fit to the ball bearing 2. Instead, Katakura teaches only that “sealing member 11 is provided at the end of the ball bearing 2 to prevent ...”² That is, Katakura does not teach any particular manner in which the sealing member is attached to the ball bearing. Accordingly, one of ordinary skill in the art looking at the teachings of Katakura would not be able to determine the manner of attachment, let alone that heating the sealing member would lower the bonding force between the sealing member 11 and the bearing 2.

Second, in order for a concept to be inherent in a reference, the concept must necessarily be true from the facts as presented. In this case, however, it is not necessarily true that heating the sealing member 11 would lower the bonding force between it and the ball bearing 2. That is, assuming that the sealing member 11 and the ball bearing 2 are press-fit to one another as asserted by the Examiner, heating may in fact strengthen the bonding force between the sealing member 11 and ball bearing 2, depending upon their relative coefficients of thermal expansion, which depend upon the materials from which they are made. But there is no disclosure of the materials from which the sealing member 11 and the ball bearing 2 are made. Accordingly, Katakura does not inherently disclose that heating the sealing member 11 will lower the bonding force between it and bearing 2.

The Examiner cites Grafstrom as teaching a sheet 8 covering a gap and disposed on an extreme endmost side of one of an inner and outer ring. But Grafstrom does not teach or suggest that heating the seal 8 would lower the bonding force between it and the inner 2 or outer 1 ring.

¹ Office Action at page 4, item 6, paragraph 2, lines 7-12.

² Katakura at col. 3, lines 15-19.

Therefore, even assuming that one of ordinary skill in the art were motivated to combine Katakura and Grafstrom as suggested by the Examiner, any such combination would still not teach or suggest a sheet covering a gap between an inner and outer ring, wherein a detachable force between the sheet and the member to which it is attached is lowerable when a bonded portion of the sheet is heated, as set forth in claim 15.

For at least any of the above reasons, claim 15 is not rendered obvious by Katakura in view of Grafstrom.

- The Examiner rejected claims 2-4, 10, and 12, under §103(a) as being unpatentable over Grafstrom in view of US Patent 5,270,887 to Edwards et al. (hereinafter Edwards). In as much as the Examiner may attempt to now apply this rejection to claim 1, Applicant respectfully traverses it because there is no motivation to combine the references as suggested by the Examiner.

The Examiner asserts that the motivation for combining Edwards' head disk assembly sealing tape 14 with Grafstrom's bearing sealing member 8 is that both "have a common application of preventing any dust or particles from passing through on either side of the sealing member or tape."³ But the considerations for sealing a head disk assembly are much different than those involved in sealing a bearing. For example, in a head disk assembly, there is concern not only for shielding from the intrusion of dust particles and the like, but also from electromagnetic intrusion. It is this latter intrusion which gives rise to Edwards' use of aluminum in the sealing tape 14. Specifically, Edwards notes that a head disk assembly is sensitive to electromagnetic interference through the gasket which seals between the upper and lower housings thereof.⁴ Edwards' invention avoids this problem by using foil in his sealing tape. See Edwards at col. 3, lines 32-35, and col. 12, lines 8-56, especially lines 43-45. Accordingly, one of ordinary skill in the art—looking at the teachings of the references as a whole—would not have been motivated to combine Edwards' head disk sealing tape with Grafstrom's rolling bearing, wherein there is no concern for electromagnetic interference.

³ Office Action at page 5, item 7, paragraph 2, lines 6-10.

⁴ Edwards at col. 3, lines 14-32.

For at least any of the above reasons, Grafstrom and Edwards fail to render obvious Applicant's claims.

Allowable Subject Matter

Applicant thanks the Examiner for indicating that claims 5-7 would be allowable if rewritten in independent form. However, because of the belief that claim 1 is allowable as written, Applicant has not rewritten these claims in independent form.

Conclusion

Claims 18-19 have been added to further define the invention. Claims 18-19 depend from claim 1 and, therefore, are allowable at least by virtue of their dependency.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

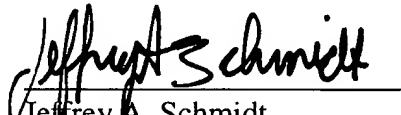
Respectfully submitted,

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

23373

CUSTOMER NUMBER


Jeffrey A. Schmidt
Registration No. 41,574

Date: November 25, 2003